

REGISTERED DATA SHEET PERFORATING SYSTEM EVALUATION, API RP 19B SECTION 1

Service Company Available to all Design Number _____ Explosive Weight 22.7 gm, HMX powder, Case Material Steel
 Gun OD & Trade Name 3 3/8" High Shot Density Gun DP - HMX Max. Temp. °F 400 1 hr _____ 3 hr _____ 24 hr _____ 100 hr _____ 200 hr
 Charge Name 22.7 gms. Universal Next Generation DP - HMX (DSC 03-08-44) Maximum Pressure Rating 20,000 psi, Carrier Material Steel
 Manufacturer Charge Part No. TC26HNG Date of Manufacture Aug 14th 2003 Shot Density Tested _____ 6 _____ Shots/ft
 Gun Type High Shot Density Gun for WL or TCP Recommended Minimum ID for Running _____ * _____ in.
 Phasing Tested 60 degrees, Firing Order X Top Down, _____ Bottom Up Available Firing Mode _____ Selective, _____ Simultaneous
 Debris Description N/A Debris Weight N/A gm/charge, Debris N/A in³/charge
 Remarks * Gun OD After firing in liquid 3.75"

SECTION 1 - CONCRETE TARGET

Casing Data 4 1/2" OD, Weight 11.6 lb/ft, L-80 API Grade, Date of Section 1 Test Sept 22nd 2003
 Target Data 90" OD, Amount of Cement 8745 lb., Amount of Sand 17490 lb., Amount of Water 4550 lb.
 Date of Compressive Strength Test Sept 23rd 2003, Briquette Compressive Strength 7452 psi, Age of Target 30 days

Shot No.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11	
Clearance, in.	0.000	0.138	0.450	0.625	0.450	0.138	0.000	0.138	0.450	0.625	0.450	
Casing Hole Diameter, Short Axis, in.	0.330	0.352	0.339	0.338	0.315	0.343	0.321	0.335	0.332	0.334	0.334	
Casing Hole Diameter, Long Axis, in.	0.350	0.357	0.348	0.349	0.342	0.375	0.357	0.365	0.345	0.340	0.362	
Average Casing Hole Diameter, in.	0.340	0.355	0.344	0.344	0.329	0.359	0.339	0.350	0.339	0.337	0.348	
Total Depth, in.	37.250	36.750	40.500	38.750	38.000	38.375	40.000	36.250	38.750	39.500	38.250	
Burr Height, in.	0.056	0.030	0.053	0.048	0.065	0.025	0.058	0.063	0.017	0.070	0.046	
Shot No.	No. 12	No. 13	No. 14	No. 15	No. 16	No. 17	No. 18	No. 19	No. 20	No. 21	No. 22	Average
Clearance, in.	0.138	0.000										0.277
Casing Hole Diameter, Short Axis, in.	0.328	0.354										0.335
Casing Hole Diameter, Long Axis, in.	0.333	0.365										0.353
Average Casing Hole Diameter, in.	0.331	0.360										0.344
Total Depth, in.	38.000	39.000										38.413
Burr Height, in.	0.031	0.065										0.048

WITNESSING INFORMATION

Date of Notice of Intent to Test: July 25th 2003 Witnessed by: J. Smirnov J. Smirnov (API Certified)
 Other Activities Witnessed: Target Pouring _____ Briquette: Preparation _____ Testing X Burr Height Measurement X Samples Taken: Concrete X Casing X

CERTIFICATION

I certify that these tests were made according to the procedures as outlined in API RP 19B: Recommended Practices for Evaluation of Well Perforators, First Edition, November 2000. All of the equipment used in these tests, such as the guns, jet charges detonator cord, etc., was standard equipment with our company for the use in the gun being tested and was not changed in any manner for the test. Furthermore, the equipment was chosen at random from stock and therefore will be substantially the same as the equipment, which would be furnished to perforate a well for any operator. The American Petroleum Institute neither endorses these test results nor recommends the use of the perforator system described.

X CERTIFIED BY DARIO E. MONTANZANO Perforating Projects Manager Sept 24th 2003 Explosivos Tecnologicos Argentinos S.A. Ruta 25Km.13 Pilar- Bs.As. Argentina
 _____ RECERTIFIED _____ (Title) (Date) (Company) (Address)